

1 **EXECUTIVE SUMMARY**

2 **INTRODUCTION**

5 Chevron U.S.A. (Applicant or Chevron) is the owner and operator of the Chevron Long
6 Wharf Marine Terminal (Long Wharf) located adjacent to the Chevron Richmond
7 Refinery (Refinery) in Contra Costa County, as shown in Figure ES-1. The California
8 State Lands Commission (CSLC) is considering granting a new 30-year lease of
9 California sovereign lands to Chevron. The lease, if granted, would allow Chevron to
10 continue to operate its Long Wharf facility.

11 The Project objective is to maintain the Refinery operational viability. The purpose of
12 this Project is to maintain Refinery viability by continuing current Long Wharf operations.
13 The Project is needed in order to continue Refinery operations; without the use of the
14 Long Wharf, the Refinery would not be viable and would be shut down.

17 The CSLC is serving as the Lead Agency responsible for preparing this Environmental
18 Impact Report (EIR) in compliance with the California Environmental Quality Act
19 (CEQA) to analyze the environmental impacts associated with operation of the Long
20 Wharf with particular emphasis on oil transfer operations at the Long Wharf, and vessel
21 transit along shipping routes within San Francisco Bay and along the outer coast. This
22 EIR will provide the CSLC the information required to exercise its jurisdictional
23 responsibilities for the proposed new lease.

24 **DESCRIPTION OF PROPOSED PROJECT**

27 The proposed Project is the continued operation of the Long Wharf, which would result
28 if the new 30-year lease is granted by the CSLC. The Long Wharf has been operating
29 under lease from the CSLC since 1947.

31 The Long Wharf, a T-head pier, is 3,440 feet long, comprised of four deep water outer
32 berths, two breasting dolphins, two inner cargo berths and additional inner berths that
33 provide temporary moorings for standby tugs and barges, and launching facilities for
34 crew and oil spill response boats. It is constructed on concrete and steel piles with a
35 concrete superstructure. The causeway, pipeway trestle, and low sulfur fuel oil (LSFO)
36 pipeway trestle are approximately 4,200 feet long, and approximately 26 feet, 55 feet,
37 and 20 feet wide, respectively. The surface of the causeway road rises from
38 approximately 13 feet above Mean Lower Low Water (MLLW) at the shore to
39 approximately 15.6 feet above MLLW at the piers.

41 Chevron, according to the lease application, does not plan a major expansion of the
42 Long Wharf during the proposed 30-year lease period. Berth No. 4, located on the
43 northwest end of the Long Wharf, may be modified to accommodate new double-hulled
44 ships up to 297,000 DWT or higher, depending on hull materials. The U.S. Coast
45 Guard (USCG) and the International Maritime Organization require the phasing-in of
46 double-hulled tankers, which are larger than most crude oil carriers currently operating,

1 Figure ES-1 – Project Vicinity Map
2

1 but of equivalent cargo capacity. As mandated by the Oil Pollution Act of 1990, double-
2 hulled ships will be phased into operation by 2015. An anticipated Berth No. 4
3 modification during the lease period would involve raising the height of the loading arms
4 and gangway, dredging a wider berth, and upgrading the breasting dolphin. Dredging
5 depth of Berth No. 4 would remain at the permitted depth of -50 feet MLLW. Depending
6 on the upgrade of the breasting dolphin, a structural analysis may be required, and
7 depending on the extent of dredging, the modifications may be subject to a subsequent
8 focused CEQA analysis. A brief analysis of the modification is included in this EIR.
9

10 The Long Wharf operates 24 hours per day, 7 days per week. Maximum throughput is
11 based on Chevron's Bay Area Air Quality Management District (BAAQMD) Permit to
12 Operate for the Refinery and Long Wharf. Over the last four-year period, the Long Wharf
13 typically received approximately 98 million bbls per year (bpy) (268,493 bbls per day
14 (bpd)) of crude oil, diesel fuel oil, gasoline components, plant feed stocks, diesel blend
15 stock, and dirty diesel/flush stock. Of this amount, approximately 80 million bbls
16 (219,178 bpd) are both domestic and foreign origin crude. During the same period, the
17 Long Wharf typically has shipped approximately 39 million bbls (106,848 bpd) annually of
18 gasoline, gasoline components, various fuels (aviation fuel, jet fuel, diesel fuel), and
19 lubricating oils.

20 Vessel calls at the Long Wharf have been as high as 35 vessel calls per month or 420
21 per year and 40 barge calls per month or 480 per year, combined for a total of 900
22 vessel and barge calls per year. As the larger capacity, double hulled tankers become
23 more common usage, the number of vessel calls may decrease. However, for the
24 purpose of worse case environmental analysis in Section 4.0, Existing Environment and
25 Impact Analysis, the 900 vessel and barge calls per year is used throughout the
26 analyses, as representative for Long Wharf's proposed maximum operations over the
27 30-year lease period.
28

29 **ENVIRONMENTAL IMPACTS AND MITIGATION**

30 This EIR includes a detailed evaluation of the potentially significant environmental
31 effects that could result from implementation of the proposed Project, including
32 operational safety/risk of accidents; marine biological resources; water quality;
33 commercial and sports fishing; land use and recreation; air quality; noise; transportation;
34 geology and soils/structural stability; cultural resources; socioeconomic, and
35 environmental justice. Table ES-1 presents a summary of impacts and mitigation
36 measures for the proposed Project. This table is presented by issue area. Within each
37 issue area, each impact is described and classified, and recommended mitigation is
38 presented. Impacts are classified as:
39

- 40
- 41 ➤ **Class I** (significant adverse impact that remains significant after mitigation);
42
 - 43 ➤ **Class II** (significant adverse impact that can be eliminated or reduced below an
44 issue's significance criteria);
45

- 1 ➤ **Class III** (adverse impact that does not meet or exceed an issue's significance
2 criteria); or
3
4 ➤ **Class IV** (beneficial impact).

5
6 **ALTERNATIVES TO PROPOSED PROJECT**
7

8 The CEQA requires consideration of a range of reasonable alternatives to the project or
9 project location that: (1) could feasibly attain most of the basic project objectives; and
10 (2) would avoid or substantially lessen any of the significant impacts of the proposed
11 Project. An alternative cannot be eliminated simply because it is more costly or if it
12 could impede the attainment of all project objectives to some degree. However, the
13 State CEQA Guidelines declare that an EIR need not consider an alternative whose
14 effects cannot be reasonably ascertained and whose implementation is remote or
15 speculative. The CEQA requires that an EIR include sufficient information about each
16 alternative to allow meaningful evaluation, analysis, and comparison with the proposed
17 Project.

18
19 The screening analysis does not focus on relative economic factors of the alternatives
20 (as long as they are feasible) since the State CEQA Guidelines require consideration of
21 alternatives capable of eliminating or reducing significant environmental effects even
22 though they may "impede to some degree the attainment of project objectives or would
23 be more costly." Likewise, the question of market demand or project need is not
24 considered.

25
26 It should be noted that the EIR analysis included alternatives that potentially would
27 result in greater environmental impacts to some issue areas, or would transfer a similar
28 level of environmental impacts to other existing marine terminal facilities, as compared
29 with the proposed Project. These alternatives have been included for analysis to
30 demonstrate that, regardless of lease renewal, similar levels of impacts may occur in
31 meeting the refining needs of the Bay area region by increased activities at other Bay
32 area marine terminals and associated refineries.

33
34 If the CSLC refused to grant Chevron a new lease for the land on which the Long Wharf
35 is located, Chevron would not be able to support the operation of the Refinery. All
36 considered alternatives met the project objective of maintaining the viability of the
37 Refinery, which includes the transportation of feed stocks and refined products at
38 current throughput levels, but do not necessarily involve use of the Long Wharf.

39
40 **No Project Alternative**
41

42 Under the No Project Alternative, Chevron's lease would not be renewed and the
43 existing Long Wharf would be subsequently decommissioned with its components
44 abandoned in place, removed, or a combination thereof. The decommissioning of the
45 Long Wharf would be governed by an Abandonment and Restoration Plan.

1 Under the No Project Alternative, an alternative means of crude oil / product
2 transportation would need to be in place prior to decommissioning of the Long Wharf, or
3 the operation of the Chevron Refinery would cease production, at least temporarily. It is
4 more likely, however, that under the No Project Alternative, Chevron would pursue
5 alternative means of traditional crude oil transportation such as a pipeline transportation
6 or use of a different marine terminal. Accordingly, the potential environmental impacts
7 of these alternatives are described and analyzed in this EIR. For the purposes of this
8 EIR, it has been assumed that the No Project Alternative would result in a
9 decommissioning schedule that would consider implementation of one of the described
10 transportation alternatives. Any future crude oil or product transportation alternative
11 would be the subject of a subsequent application to the CSLC and other agencies
12 having jurisdiction depending on the proposed alternative.
13

14 Decommissioning, abandonment, and/or deconstruction of the wharf, or any other
15 proposed reuse of the wharf would require a separate CEQA review. Since details
16 associated with decommissioning, abandonment, and/or deconstruction would need to
17 be developed if they were to occur, for the purposes of this EIR, impacts are discussed
18 only briefly.
19

20 **Full Throughput Via Pipeline Alternative**

21

22 This alternative assumes that with no Long Wharf to receive crude or transport product,
23 pipelines would be used. Crude received could be a combination of Central Valley,
24 Alaskan and foreign crude received through arrangements with other Bay Area
25 terminals and piped to the Refinery. This combination would be considered necessary
26 because the availability of Central Valley crude is declining.
27

28 This concept of using pipelines to replace the Long Wharf is carried forward in a general
29 manner for analysis. While viable from an environmental analysis perspective, other
30 considerations include the lengthy and complex regulatory processes that would be
31 required for pipelines to be installed to replace the Long Wharf. Some other constraints
32 that must be considered include the availability of Central Valley crude, and whether
33 pipeline easements could be obtained to the Central Valley as well as to other sources
34 in the Bay Area.
35

36 Construction of new pipelines and facilities would be required to equal the current daily
37 receipt of crude processed through the Refinery (245,000 bbls). The Refinery would be
38 required to reconfigure process systems to handle Central Valley crude. Shipment of
39 product also would require arrangements with other area terminals as well as the
40 pipeline connections.
41

42 **Conceptual Consolidation Terminal Alternative**

43

44 This alternative assumes that a number of Bay area refinery operators would participate
45 in a consolidated terminal. This hypothetical action could occur within the next 10 to
46 30 years (during the term of the proposed Long Wharf lease). This concept would be

1 similar to a prior proposal, the Richmond Marine-Link Pipeline System (RMLPS) that
2 was subsequently withdrawn by its Applicant. However, this alternative assumes that,
3 within the next 10 to 30 years, changes in the economic, political, and environmental
4 drivers would make a consolidation terminal a viable and feasible option in meeting
5 increased demand in the Bay area. Future drivers may include the rise of vessel traffic
6 safety risk from continued increases in all Bay area marine traffic, costs associated with
7 maintenance dredging of vessel transit lanes for deep draft vessels, increases in vessel
8 to vessel lightering, increased refining capacities at existing Bay area refineries, and
9 political or regulatory changes.

10
11 The consolidated facility would be located in Contra Costa County, north of the Long
12 Wharf, or in another Bay site where natural water depths would accommodate such a
13 facility without new dredging. The facility would be conceptually planned to
14 accommodate crude oil deliveries of between 189,000 to 243,000 bpd to reduce vessel-
15 to-vessel lightering of crude oil at Anchorage No. 9, and to reduce tanker traffic in the
16 greater San Francisco Bay, especially San Pablo Bay and the Carquinez Strait. The
17 facility would allow petroleum to be offloaded at a central facility and delivered to
18 refineries, storage terminals, and other facilities in the east San Francisco Bay area via
19 smaller marine vessels or pipelines. A land-based pipeline system would provide
20 linkages to area refineries, including the Chevron Refinery.

21
22 Given that the consolidation terminal would be able to accommodate up to 243,000 bpd,
23 it would not have the capacity to deliver the present daily quantity of crude
24 (245,000 bbls) to the Chevron Richmond Refinery and the other refineries in San Pablo
25 Bay and the Carquinez Strait. In addition, the Long Wharf operating at full capacity
26 would not be able to handle additional deliveries, and would be limited in its ability to
27 handle additional vessels, even if additional piping and pumping were installed.
28 Therefore, total consolidation of the consolidated terminal and the Long Wharf at either
29 the consolidated terminal or the Long Wharf was not considered viable, and was
30 eliminated from further consideration in this EIR.

31
32 Thus, in a worst-case analysis, both facilities would be operational. For this analysis,
33 the Long Wharf throughput would be reduced to approximately 50 percent of existing
34 throughput, with the balance supplied from the consolidated terminal facility with
35 delivery via pipeline to the Long Wharf. Similarly, product export would be shared
36 between the two marine terminals.

37
38 **COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES AND**
39 **DETERMINATION OF ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

40
41 The State CEQA Guidelines [section 15126.6 (d)] require that an EIR include sufficient
42 information about each alternative to allow meaningful evaluation, analysis, and
43 comparison with the proposed Project. The Guidelines [Section 15126.6 (e)(2)] further
44 state, in part, "*If the environmentally superior alternative is the "No Project" alternative,*
45 *the EIR shall also identify an environmentally superior alternative among the other*

1 alternatives." (Emphasis added). Table ES-2 provides a comparison of the Proposed
2 Project with each of the alternatives evaluated in this document, including the No
3 Project Alternative.

4
5 The No Project Alternative eliminates impacts from the Chevron Refinery, however
6 shifts a similar level of impact to other Bay area marine oil terminals that would make up
7 the differential for crude and product transport throughout the Bay. Thus, by
8 eliminating impacts of Long Wharf operations at the Refinery, the No Project is
9 environmentally superior, with the exception of significant impacts to the ability of the
10 Refinery to continue to operate without a method of crude and product transport. The
11 No Project does not meet the Project objective to maintain the Refinery operational
12 viability.

13
14 The Full Throughput Via Pipeline Alternative has similar consequences as the proposed
15 Project but transfers those consequences to another terminal or terminals that would
16 load/offload crude/product for pipeline transport to/from the Refinery. Impacts
17 associated with the Long Wharf would thus be eliminated. However, construction of a
18 pipeline between another terminal and the Refinery would have the potential for on land
19 spills/leaks that could be Class I, but with the potential for less overall severity than
20 spills in the water. While Long Wharf impacts are eliminated, Chevron's current clients
21 rely on the Long Wharf for berthing as other area marine terminals have limited berthing
22 areas. Without the Long Wharf, the capacity of other marine terminals may be taxed,
23 potentially increasing vessel congestion, collisions, as well as emissions while vessels
24 wait to berth and offload/load. Thus, this alternative may be considered to represent the
25 least potential adverse environmental impacts since the Long Wharf would not be
26 operational, but may increase impacts at other Bay area marine oil terminals.

27
28 The Conceptual Consolidation Terminal would reduce operations at the Long Wharf but
29 not eliminate them. The balance of operations would be via the consolidated terminal
30 and a new pipeline for crude/product transport to the Refinery. While the Long Wharf
31 would handle less throughput, impacts associated with the Long Wharf would remain
32 similar to the proposed Project and Class I impacts would not be reduced, and there
33 would be the addition of similar risks posed from the consolidated terminal. In addition,
34 construction of a pipeline between the other terminal and the Refinery would have
35 potential for Class I on-land spills/leaks, but with the potential for less overall severity
36 than spills in the water.

37
38 Because the Conceptual Consolidation Terminal reduces but does not eliminate
39 impacts at the Long Wharf and adds similar impacts from the consolidation terminal,
40 with added potential from on land pipeline spills, it is considered to represent a greater
41 potential adverse environmental impact than the proposed Project.

42
43 Based on this comparison, the Full Throughput via Pipeline is the Environmentally
44 Superior Alternative.

45

1 The comparison between the proposed Project and the alternatives is presented in
2 Table ES-2 for those impacts remaining significant after incorporation of mitigation
3 measures.

4

5 **KNOWN AREAS OF CONTROVERSY OR UNRESOLVED ISSUES**

6

7 There are no known areas of controversy surrounding the proposed Project. No
8 objections to the proposed Project were raised at the public scoping meeting, and no
9 correspondence has been received challenging the project or its potential environmental
10 effects.

Table ES-1
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
Section 4.1 OPERATION SAFETY/RISK OF UPSET			
OS-1	There are no deficiencies with the existing deck drainage system or procedures that could pose a risk for, or increase the potential for spills at the terminal from routine operations. However, small spills are still possible but are adverse, and less than significant.	III	None required.
OS-2	Potential impacts to public safety from a highly volatile product release are adverse, but less than significant since the vapors evaporate quickly.	III	None required.
OS-3	Chevron's response capability for containment of spills during transfer operations would result in adverse and significant impacts for spills greater than 50 bbls. Consequences would range from spills that can be contained during first response efforts with rapid cleanup (Class II), to those complex spills that result in a significant impact (Class I) with residual effects after mitigation.	I or II	<p>OS-3a: Provide quick release devices that would allow a vessel to leave the wharf as quickly as possible in the event of an emergency (fire, accident or tsunami that could lead to a spill), which could impact the wharf or the vessel.</p> <p>OS-3b: Install tension-monitoring devices at Berth 1 to monitor mooring lines and avoid excessive tension or slack conditions that could result in spills. An alarm system (visual and sound) that incorporates communication to the control-building operator shall also be a part of the system. In addition, if any vessel drifts (surge or sway) more than 7 feet from its normal manifold or loading arm position at any other terminal berth, Chevron shall install, within 6 months after the incident, tension-monitoring devices at such berth.</p> <p>OS-3c: Install Allision Avoidance System (AAS) at the terminal to prevent damage to the pier and/or vessel during docking operations. Prior to implementing this measure, Chevron shall consult with the San Francisco Bar Pilots, the U.S Coast Guard, and the staff of the CSLC and provide information that would allow the CSLC to determine, on the basis of such consultations and information regarding the nature, extent and adequacy of the existing berthing system, the most appropriate application and timing of an AAS at the Chevron Long Wharf.</p>

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Impact	Recommended Mitigation Measures
OS-4	Group V oils have a specific gravity greater than 1 and do not float on the water; instead, they will sink below the surface into the water column or possibly to the bottom. Chevron states in their Spill Preparedness and Emergency Response Plan that no reasonable technology currently exists for a Group V response in the San Francisco Bay.	I	OS-3d: Develop a comprehensive preventative maintenance program that includes periodic inspection of all components related to transfer operations. The program shall be subject to California State Lands Commission review and approval.	OS-4: Chevron shall confer with the California State Lands Commission (CSLC) regarding Group V oil spill response technology, including potential new response equipment and techniques that may be applicable for use at the Long Wharf. Chevron shall work with the CSLC in applying these new technologies, as agreed upon, if recommended for this facility.
OS-5	Spills from the terminal during non-transfer periods would be associated with pipelines and are considered a significant (Class II) impact if spills are less than 50 bbls, or significant (Class I) impacts for spills greater than 50 bbls.	I or II	OS-5: Implement MM OS-3d.	OS-6a: Chevron shall implement MM OS-3a to provide for quick release devices that would allow a vessel to depart the wharf quickly and help in the event of a fire.
OS-6	Public areas are beyond the hazard footprint boundary; thus fires and explosions would not cause a public safety risk. However, the Wharf's Operations Manual does not address fire emergency procedures and a fire and/or explosion could lead to a release of oil.	II	OS-6b: Develop a set of procedures and conduct training and drills for dealing with tank vessel fires and explosions for tankers berthed at the Long Wharf. The procedures should include the steps to follow in the event of a tank vessel fire and describe how Chevron and the vessel will coordinate activities. The procedures shall also identify other capabilities that can be procured if necessary in the event of a major incident. The procedures shall be submitted to the U.S. Coast Guard and California State Lands Commission (CSLC) within 90 days of lease renewal. The CSLC shall have final approval of the plan. The plan shall be consistent with the requirements of section 3108F2.2 of 24 CCR, Part 2, California Building Code, Chapter 31F.	

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
OS-7	Spills from accidents in the Bay could result in impacts to water quality or biological resources that could be significant adverse (Class II) impacts for those that can be contained during first response efforts; or significant adverse (Class I) impacts that would have residual impacts. While Chevron does not have legal responsibility for tankers it does not own, it does have responsibility to participate in improving general response capabilities.	I or II	<p>OS-7a: Chevron shall participate in an analysis to determine the adequacy of the existing VTS in the Bay Area, if such a study is conducted by a federal, state, or local agency during the life of the lease. Agencies such as the San Francisco Bay Harbor Safety Committee often conduct studies of safety issues within the Bay Area. As vessel traffic increases in and around the Bay Area and as technology improves, it may be necessary and feasible to upgrade and expand the VTS in and around the Bay Area. Chevron shall participate in this analysis and contribute a pro-rata share toward the upgrade and expansion of the system, if required to do so by the CSLC.</p> <p>OS-7b: Chevron shall respond any spill as if it were its own, without assuming liability, until such time as the vessel's response organization can take over management of the response actions in a coordinated manner.</p>
WQ-1	Disturbed sediments could cause a brief, localized increase in turbidity and depression in dissolved oxygen concentrations, but would disperse rapidly with the strong tidal currents in the area, and be rapidly mitigated by tidal mixing with Bay waters of high dissolved oxygen concentration. Such events would occur for an hour or less during a 24-hour period and be limited to the immediate vicinity of the Long Wharf.	III	None required.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
WQ-2	Discharge of ballast water that contains harmful microorganisms could impair several of the project area's beneficial uses, including commercial and sport fishing, estuarine habitat, fish migration, preservation of rare and endangered species, water contact recreation, non-contact water recreation, fish spawning, and wildlife habitat. Therefore discharge of segregated ballast water is determined to have a potentially significant impact to water quality.	1	<p>WQ-2: Chevron will advise agents representing vessels that have called at the Long Wharf as of the date of adoption of the cited Mitigation Monitoring Program, and Chevron will advise representatives of shipping companies having control over vessels that would be likely to call at the Long Wharf in the future about the California Marine Invasive Species Control Act. Chevron will ensure that a Questionnaire containing the following questions is provided to the Vessel Operator, and inform the Vessel Operator that the Questionnaire should be completed on behalf of the vessel, by its Captain or authorized representative, and provided to the California State Lands Commission's Marine Facilities Division's Northern California Field and Sacramento Offices, either electronically or by facsimile, prior to the vessel's entry into San Francisco Bay or in the alternative, at least 24 hours prior to the vessel's arrival at the Long Wharf.</p> <p>The Questionnaire shall solicit the following information:</p> <ol style="list-style-type: none"> 1. Does the vessel intend to discharge ballast water in San Francisco Bay, the Carquinez Strait or any other location(s) in a Bay waterway on its transit to the Chevron Richmond Long Wharf? 2. Does the vessel intend to discharge ballast water at the Chevron Richmond Long Wharf? 3. Which of the following means specified in the California Marine Invasive Species Act (MISA) or Title 2, Division 3, Chapter 1, Article 4.6. has the vessel operator used or intend to use on the current voyage to manage the vessel's ballast water: a mid-ocean exchange (as defined in Section 71200(g)); a near-coastal exchange (as defined in Section 71201(b)); retain all ballast on board; or discharge the ballast water at the same location (as defined in Section 71204.2(c)(2)) where ballast originated, provided ballast water was not mixed with ballast water taken on in an area other than mid-ocean waters?

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
WQ-3	Vessel wastes are treated and discharged in accordance with an NPDES permit and because the discharge is monitored and Chevron generally has been within permit requirements for the last five years, the impacts of chemical contaminants in treated terminal wastes on water quality are considered to be adverse but less than significant.	III	None required.
WQ-4	Firewater has been treated at the Refinery and because contaminants in firewater would be diluted below thresholds within a matter of minutes, the impacts of firewater discharge on marine water quality are considered to be adverse but less than significant.	III	None required.
WQ-5	Non-segregated ballast water that is sent to the treatment facility may include nonindigenous organisms. Treatment at the facility does not include any specific procedures to prevent organisms that may be in ballast water from being discharged to Bay waters. Discharge of harmful microorganisms would be a significant adverse impact.	II	WQ-5: Chevron shall not discharge any non-segregated ballast water received at the Long Wharf to San Francisco Bay. If Chevron needs to unload unsegregated ballast water, it shall be unloaded into a tanker truck or other suitable wastehandling vehicle and disposed of at an appropriate facility.
WQ-6	The slow leaching of zinc anodes may increase metal concentrations, but due to the slow rate of exchange of the anodes to seawater, the impact of cathodic protection on water quality is adverse, but less than significant.	III	None required.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
WQ-7	Marine anti-fouling paints are highly toxic containing copper, sodium, zinc, and tributyltin (TBT) and their use on vessels associated with the Long Wharf is considered to be a significant adverse impact to water quality that cannot be mitigated to less than significant.	I	WQ-7: Chevron will advise representatives of vessels that have called at the Long Wharf as of the date of adoption of the cited Mitigation Monitoring Program, and vessel representatives that would be likely to call at the Long Wharf in the future about the requirements of the 2008 International Maritime Organization (IMO) prohibition of TBT applications to vessel hulls. Following the effective date of the IMO prohibition, Chevron will ensure that the Master (Captain) or authorized representative of vessels intending to call at the Long Wharf certify that their vessel is in compliance and provide a copy of such certification to the California State Lands Commission's Marine Facilities Division's Northern California Field and Sacramento Offices, either electronically or by facsimile, prior to the vessel's entry into San Francisco Bay or in the alternative, at least 24 hours prior to the vessel's arrival at the Long Wharf.
WQ-8	Routine vessel maintenance would have the potential to degrade water quality due to chronic spills during transfers of lubricating oils, resulting in adverse significant impacts.	I or II	WQ-8: MM WQ-9 applies which addresses Best Management Practices (BMPs) in a SWPPP for the Long Wharf.
WQ-9	Stormwater runoff from the Long Wharf may contribute pollutants to the Bay in concentrations that may adversely affect some benthic species within the local area, resulting in a significant adverse impact to water quality.	II	WQ-9: Implement BMPs to reduce the input of chemicals to the Bay from the marine terminal, including (at a minimum) (1) conducting all vehicle maintenance on land not over water or marshland, (2) berthing all areas on the pier where maintenance activities are being conducted and cleaning up all spilled contaminants before berms are removed, (3) washing the surface of the pier to the extent practical and directing washwater into sumps, (4) maintenance of sumps, and (5) posting signs to educate all workers to the importance of keeping contaminants from entering the Bay. These BMPs shall be detailed in a Stormwater Pollution Prevention Plan that Chevron shall prepare specifically for the Long Wharf.
WQ-10	The effects of dredging and dredged material disposal on water quality are regulated and subject to acquisition of a dredging permit prior to dredging, thus impacts on water quality are adverse, but less than significant.	III	None required.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
WQ-11	Small leaks or spills (less than 50 bbl) related to Long Wharf operations could result in significant (Class II) impacts, while large spills (greater than 50 bbl) could result in significant adverse impacts (Class I).	I or II	WQ-11: MM OS-3a through MM OS-3d (Operational Safety/Risk of Upset) and MM OS-4 shall be implemented.
WQ-12	A significant impact to water quality (Class I or II) could result from leaks or an accidental spill of crude oil or oil product from a vessel spill along tanker routes either in San Francisco Bay or outer coast waters.	I or II	WQ-12: The Long Wharf shall implement MM OS-7-a and OS-7-b of Section 4.1, Operational Safety/Risk of Upset Section, addressing potential participation in VTS upgrade evaluations, and Chevron response actions for spills at or near the Long Wharf.
Section 4.3 BIOLOGICAL RESOURCES			
BIO-1	Ship traffic associated with Long Wharf terminal operations represents an incremental amount compared to the background noise of ship traffic in San Francisco Bay and along outer coast tanker routes, thus disturbance to fishes from routine operations at the terminal are adverse, but less than significant impacts. Birds local to the terminal have adapted to vessel traffic, and impacts are adverse, but less than significant.	III	None required.
BIO-2	The area near the Chevron Long Wharf berth where propeller wash and bow thrusters may disturb sediments is very small compared to the amount of benthic habitat in the project area, and impacts of tanker sediment turbulence on benthic communities are adverse, but less than significant.	III	None required.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
BIO-3	Loss of juvenile Dungeness crabs and young Chinook salmon would be significant if dredging occurs when juveniles are migrating through the area (Class II). Adverse, but Less than significant impacts (Class III) occur to plankton, other benthos, other fishes, and birds.	II	<p>BIO-3a: The Long Wharf shall schedule dredging to avoid the months of May and June, when juvenile Dungeness crabs are most abundant in the Project area.</p> <p>In the event that, due to circumstances beyond lessee's control, dredging must occur in May and June to maintain a depth for safe navigation and operation of the terminal, lessee shall consult with the California Department of Fish and Game (CDFG) regarding the potential effects of such dredging on juvenile Dungeness Crabs and Chinook salmon smolts. Such consultation may occur directly with CDFG personnel in Region 3 or with CDFG personnel during the consideration of lessee's application to the Dredged Material Management Office (DMMO). If the CDFG concurs with dredging as proposed by the lessee, documentation of which shall be provided to Lessor, it shall be conclusively presumed that juvenile Dungeness Crabs and Chinook salmon smolts will not be significantly affected, and dredging may proceed as provided herein.</p> <p>BIO-3b: To avoid impacts to Pacific herring reproduction, the Long Wharf shall schedule dredging to avoid the herring spawning season of December through February and into March.</p> <p>BIO-3c: Although chances of entrainment of salmon are relatively low, to protect the salmon, the Long Wharf shall schedule dredging in June through November when winter and spring run Chinook salmon smolt activity is lowest.</p>

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
BIO-4	Invasive organisms/introduction of non-indigenous species in ballast water released in the Bay could have significant impacts to plankton, benthos, fishes, and birds.	I	BIO-4: Implement MM WQ-2, in Water Quality, that requires that Chevron comply with the California Marine Invasive Species Control Act and related California State Lands Commission requirements, and the Ballast Water Management for Control of Non-Indigenous Species Act and fill out a questionnaire to enable the CSLC to better track the management of ballast water. Implement Mitigation Measure VQ-5 requiring segregated ballast water be unloaded to a suitable wastehandling vehicle and disposed of at an appropriate facility rather than being treated at the Chevron facility shall apply.
BIO-5	Contaminant inputs into the water from Chevron terminal operations are low when compared to other pollutant sources in the Bay. The impacts on plankton, benthos, fishes, and birds are less than significant.	III	None required.
BIO-6	A spill can significantly impact the biota at or near the Chevron terminal have the potential to spread through Carquinez Strait and into Suisun and San Pablo Bays. Vulnerable biota are plankton, benthos, eelgrass, fishes, marshes, birds, and mammals. Per Operational Safety/Risk of Accidents section, small spills at the terminal (less than 50 bbls) should be able to be contained (Class II impacts). However, spills larger than 50 bbls may not be able to be contained and Chevron terminals may not have adequate boom to protect all the sensitive areas at the most risk that could be oiled within 3 hours of a spill from the terminal. Impacts from large spills are considered to be significant adverse (Class I) impacts.	I and II	BIO-6a: Implement MM OS-3a through MM OS-3d and MM OS-4 in Operational Safety/Risk of Accidents to either lower the probability of an oil spill or increase response capability. BIO-6b: Chevron shall demonstrate to the satisfaction of the California State Lands Commission (CSLC) that the Long Wharf can successfully implement its Oil Spill Response Plan and can deploy within 3 hours all the boom necessary to simultaneously protect all the sensitive resources at risk of contact with oil within 3 hours from a spill at the Long Wharf. Sensitive resources close to the Long Wharf include Castro Rocks, eelgrass beds, and the double-crested cormorant breeding colony on the Richmond-San Rafael Bridge. Procedures for the protection of Castro Rocks and eelgrass beds are detailed in the Area Contingency Plan (USCG and OSPR 1997). Chevron shall obtain the 15,000 feet (2.8 miles) of boom necessary to protect the Richmond eelgrass beds and Castro Rocks simultaneously from a spill at the Long Wharf. Chevron shall survey for eelgrass annually in the Richmond area and identify the places where substantial amounts of eelgrass currently grow. Chevron shall implement drills specifically designed to deploy and anchor booms

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
Impact No.	Impact	Impact Class	
Impact No.	Impact	Impact Class	
			<p>Simultaneously to protect immediately Castro Rocks and the Richmond eelgrass beds from oil. Because a spill could reach these areas rapidly, Chevron should have immediate access to the equipment and personnel detailed in the Area Contingency Plan.</p> <p>BIO-6c: Procedures should be in place to flush double-crested cormorants from the waters contaminated by oil. Arrangements should be made to quickly bring expert bird rehabilitators to the site to rescue oiled birds.</p>
			<p>BIO-6d: Chevron shall ensure that adequate equipment and personnel are available to protect the Castro Creek marshes, San Pablo Creek marshes, Pinole Pt. marshes and the southeastern San Pablo Bay mudflats within 8 hours of a spill at the Long Wharf. The strategy to protect each of these sensitive resources shall be tested with a field demonstration of deployment and placement of booms and other equipment in locations designated in the Area Contingency Plan to protect these sensitive habitats.</p>
			<p>BIO-6e: When a spill occurs, develop procedures for clean up of any sensitive biological areas contacted by oil, in consultation with biologists from California Department of Fish and Game and United States Fish and Wildlife Service, to avoid damage from clean up activities.</p>
			<p>BIO-6f: If damage occurs, the last resort is restoration and compensation. Any loss of resources shall be documented as soon as possible after a large spill. The sampling methods and design should be determined beforehand, and the plan should include provisions for getting resources onsite as soon as possible so that post-spill studies can begin immediately.</p>

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
	BIO-6g: Operational Safety/Risk participation in VTS upgrade evaluations, and Chevron response actions for spills at or near the Long Wharf.		MM OS-7a and MM OS-7b in potential accidents addressing evaluations, and Chevron response actions for spills at or near the Long Wharf.
Section 4.4 COMMERCIAL AND SPORTS FISHERIES			
FSH-1	Space use conflicts between Long Wharf routine operations and commercial herring fishing could occur resulting in interference or displacement of herring fishing activities. Impacts would range from significant (Class II) to adverse, but less than significant (Class III), depending on herring spawning locations, fishing operations and other factors.	II to III	FSH-1: Chevron shall participate in the Pacific herring commercial fishery annual public scoping and hearing process, part of CDFG's annual review of herring commercial fishing regulations. Because CDFG has the authority to modify or develop regulations to address space use conflicts between the fishery and Chevron's operations, Chevron shall abide by any future regulations CDFG may develop to reduce space use impacts.
FSH-2	Space use conflicts between transiting vessels serving the Chevron Long Wharf and commercial herring operators could occur, resulting in interference or displacement of herring fishing activities.	II	FSH-2: Chevron shall notify herring operators during the herring fishing season of vessel transits, through the CDFG Director's Herring Advisory Committee or other means. Chevron shall also participate MM FSH-1, the Pacific herring commercial fishery annual public scoping and hearing process, part of CDFG's annual review of herring commercial fishing regulations.
FSH-3	Space use conflicts between sport fisheries in the Bay and normal Chevron Long Wharf operations are small.	III	None required.
FSH-4	Space use conflicts between Bay sport fisheries and vessels transiting to and from the Long Wharf are expected to be infrequent, and if they occur, are expected to be limited to a small portion of available fishing.	III	None required.
FSH-5	Vessel operators handling crude oil and product may affect commercial or recreational fishing; space use conflicts are expected to be adverse, but less than significant (Class III).	III	None required.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
FSH-6	Fisheries depend on a healthy environment to survive and flourish. Invasive species discharged from ballast water could impair water quality (Impacts WQ-2 and WQ-5) and biological resources (Impact BIO-4). These impacts to fisheries resources would impair commercial and sport fishing activities in the Bay and along the outer coast.	I	<p>FSH-6a: Chevron shall: (1) carry out MM WQ-2 and MM WQ-5 for ballast water reporting, and distribute advisories about the California Marine Invasive Species Control Act and disposal of non-segregated ballast water.</p> <p>FSH-6b: Chevron shall participate and assist in funding ongoing and future actions related to invasive species and identified in the October 2005 Delta Smelt Action Plan (State of California 2005). The funding support shall be provided to the Pelagic Organism Decline Account or other account identified by the California Department of Water Resources and Department of Fish and Game, lead Action Plan agencies. The level of funding shall be determined through a cooperative effort between CSLC, and the Departments of Water Resources and Fish and Game and shall be based on criteria that establishes Chevron's commensurate share of the Plan's invasive species actions costs.</p>
FSH-7	Chevron routine operations contribute to contamination of waters near the Long Wharf and to the Bay but impacts on sport and commercial fisheries are expected to be adverse, but less than significant (Class III).	III	None required.
FSH-8	Continuation of maintenance dredging at the Long Wharf is expected to cause Class III impacts on sport fishing activities and Class II impacts on herring spawning and fishing, Dungeness crab and salmon resources. New dredging to accommodate larger, double-hulled tankers is expected to cause impacts similar to those caused by routine operations at the Long Wharf (Class II and Class III).	II and III	<p>FSH-8: Chevron shall comply with MM BIO-3 3 which calls for scheduling dredging during times of the year to avoid juvenile Dungeness crab, spring run Chinook salmon and herring spawning activity. In the event that dredging must occur in May and June (times to avoid for crab and salmon resources), MM BIO-3 requires consultation with CDFG and notification to CSLC.</p>

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact Class	Impact	Impact Class	Recommended Mitigation Measures
FSH-9	I or II	<p>Shrimp, herring and sport fisheries in central and north San Francisco Bay, San Pablo Bay, Carquinez Strait and elsewhere in the estuary are at highest risk of spill contamination. Depending on spill location, size and water and weather conditions, areas upstream of the confluence of the Sacramento and San Joaquin rivers may also suffer harm. In addition marinas, launch ramps and fishing access points in the Bays may be threatened, contaminated or closed. Significant adverse impacts (Class I and II) to Bay commercial and sport fisheries would result from oil spill accidents originating at the Long Wharf or from tankers transiting the coast that service the wharf.</p> <p>FSH-9a: Implement MM OS-3, MM OS-4, MM OS-6 and MM OS-7 in Operational Safety/ Risk of Accidents, and MM BIO-6b and BIO-6d in Biological Resources, to lower the probability of any oil spill and increase response capability.</p> <p>FSH-9b: Post notices at spill sites and marinas, launch ramps and fishing access points to warn fishing interests of locations of contaminated sites. Notices shall be written in English, Vietnamese, Cantonese and Spanish, and be posted in areas most likely to be seen by fishing interests.</p> <p>FSH-9c: If damages to fishing operations or related businesses occur, as a last resort, provide financial compensation. Any losses shall be documented as soon as possible after a spill using methods for determining damages established beforehand. Response should include provisions for compensating operators and businesses as soon as possible.</p> <p>FSH-9d: Following a spill, evaluate the effectiveness of oil spill mitigation measures used to respond to a spill caused at the Long Wharf or by tankers calling at the Wharf. Results of the evaluation would be available to public decision-makers to ensure refinement, and if necessary, modification of mitigation measures. Evaluation would be done only after an accident and would include monitoring using scientifically accepted protocols. Costs for the evaluation would be borne by Chevron for spills caused at the Long Wharf or by Chevron-owned tankers. Chevron shall contribute to independent public or private organizations for oil spill research. Contributions would be determined in cooperation with the evaluating organizations, agencies, and the CSLC.</p>		

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
FSH-10	Significant adverse impacts (Class I and II) to outer coast commercial and sport fisheries could result from oil spill accidents from the expected 900 annual transiting tankers calling at the Chevron Long Wharf. The level of impact would depend on the size of the spill, location, and fisheries occurring in the area of the spill.	I or II	FSH-10: Chevron shall implement MM OS-7 for VTS upgrade participation and to provide immediate spill response near/at the terminal. For spills from Chevron owned vessels Chevron officials shall implement FSH-9b through MM FSH-9d to notify fishing interests of possible contamination of fishing areas, to help offset the losses to fishing interests and businesses dependent on fishing activities, and to evaluate effectiveness of mitigation measures.
Section 4.5 LAND USE AND RECREATION			
LU-1	The proposed Project would not conflict with any existing or future planned policy issues or plans. Proposed Project impacts with regard to policy inconsistency would be less than significant.	III	None required.
LU-2	Issues related to land use associated with the Refinery and planned trail segments are not within the jurisdiction of the CSLC. Proposed Project land use impacts would be less than significant.	III	None required.
LU-3	A number of recreational facilities (designated parks, wildlife preserves, open space, etc.) and recreational uses (nature viewing, boating, fishing, surfing, etc.) are within the potential area that could be impacted by the spread of oil from releases at or near the Long Wharf. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water and could result in significant adverse (Class I and II) impacts.	I or II	LU-3: Mitigation measures for spills at the Long Wharf would be the responsibility of Chevron USA operations. Specific measures are those presented in Operational Safety/Risk of Upset; Water Quality; Biological Resources; and Commercial and Sport Fisheries.
LU-4	Spills from vessels in transit that beach along sensitive land use areas or heavily used areas including recreational areas would limit or preclude such uses and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.	I or II	LU-4: Mitigation measures for accidents in the shipping lanes would not be Chevron USA's responsibility, but would fall to the vessel operator/owner, unless the vessels are owned by Chevron. Chevron USA shall implement measures OS-7-a and OS-7-b in Operational Safety/Risk of Upset.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
Section 4.6 AIR QUALITY			
AQ-1	No major construction is proposed as part of the 30-year lease. Minor upgrades, maintenance and repairs would be adverse, but less than significant.	III	None required.
AQ-2	Measured and calculated criteria pollutant emissions are below existing yearly BAAQMD permitted levels. Continued operation of the Long Wharf at current throughput levels would not result in significant air quality emissions impacts.	III	None required.
AQ-3	Since the facility is already operational, worker commute emissions are already part of ambient conditions, thus non-permitted emissions impacts are adverse, but less than significant.	III	None required.
AQ-4	Dredging is a permitting activity that is calculated into the Bay Area's baseline conditions. Air quality emissions will not increase from continued dredging activities over the term of the proposed 30-year lease, and are considered adverse, but less than significant.	III	None required.
AQ-5	Over the lease period, a minimal amount of emissions would be associated with Berth No. 4 modifications. Indirect operations emissions would reduce in accordance with the Bay Area CAP and subsequent clean air plans enacted during the lease period. Thus, future operational emissions (both indirect and direct) would result in an adverse, but less than significant impact.	III	None required.
AQ-6	The Long Wharf does not emit odors that are/have been reported in the local area. No sensitive receptors are located in the immediate area. Impacts are adverse, but less than significant.	III	None required.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
AQ-7	The Long Wharf is in compliance with the BAAQMD permitting for hazardous and toxic pollutants. Impacts are adverse, but less than significant.	III	None required.
Section 4.7 NOISE			
N-1	Because the Long Wharf already exists, it is considered part of the ambient noise environment. It is located in an industrial area, however sensitive receptors are located along the Pt. Richmond shoreline approximately 1 mile away. Over the lease period, no sensitive receptors are to be constructed proximate to the terminal. Occasional noise complaints from residential receptors result in potentially significant impacts.	I	<p>N-N-1: As a lease condition, Chevron shall either retain an on-call noise consultant or train onsite personnel in the proper use of sound monitoring equipment. When a vessel berths at the wharf that is perceived to have a noise problem, either by Chevron personnel or public notification (resulting from a history of local resident noise complaints), noise measurements shall be obtained to document the noise associated with these ships. If these ships are found to emit noise at a level that exceeds City standards at the residential property line, the vessels' operators shall be notified to determine if the problem can be corrected. If the owner/operator cannot or will not correct the problem, the following shall be implemented:</p> <ul style="list-style-type: none"> • Chevron shall berth these ships during all subsequent visits at the most distant berth from local receptors that can accept the class of ship and cargo; and • During subsequent visits, these "noisy" ships shall not be allowed to hotel at the wharf during the night beyond the time necessary to load/unload.
N-2	No expansion of Long Wharf operations are expected to occur over the 30-year lease period. Mobile sources of noise associated with future vessel berthing operations are expected to remain similar to current operations. Impacts are adverse, but less than significant.	III	None required.
Section 4.8 VEHICULAR AND RAIL TRANSPORTATION			
TR-1	No increase in vehicular traffic from wharf operations would occur during the lease period. Impacts are adverse, but less than significant.	III	None required.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
Section 4.9 VISUAL RESOURCES/LIGHT AND GLARE			
VR-1	Proposed Project operations involve tanker activity at the existing Long Wharf and vessel transit through established shipping lanes in the Bay. The Long Wharf and Refinery have been in place for a long time, and the proposed Project site is industrial in character. No visual changes from continued operations would occur. Visual impacts or night lighting impacts associated with continued operations are adverse, but less than significant.	III	None required.
VR-2	The visual impacts of a spill at or near the terminal could last for a long period of time, depending on the level of physical impact and cleanup ability, and are considered to be adverse and significant.	I or II	VR-2: Mitigation measures for oil spill impacts include those measures for contingency planning and response as presented in Operational Safety/Risk of Upset and Biological Resources.
VR-3	Spills from vessels in transit would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of viewers would result in a negative impression of the viewedshed and result in significant adverse impacts, depending on the various characteristics of a spill and its residual effects.	I or II	VR-3: Mitigation measures for accidents in the shipping lanes would be Chevron's responsibility only for Chevron-owned vessels. Responsibility for accidents for non-Chevron owned vessels would fall to the vessel operator/owner. Chevron shall implement measures OS-7-a and OS-7-b in Operational Safety/Risk of Upset.
Section 4.10 CULTURAL RESOURCES – No impacts to Cultural Resources			
Section 4.11. GEOLOGICAL RESOURCES/STRUCTURAL INTEGRITY			
GEO-1	The Long Wharf is not located in the Alquist-Priolo earthquake fault zone. Surface rupture from known active faults is not anticipated, and impacts would be less than significant. Seismically induced landsliding is unlikely as the underlying sea bottom is relatively flat.	III	None required.
GEO-2	Upgrades have been completed at the Long Wharf that conform to CSLC's MOTEMS. Potential impacts from groundshaking are adverse, but less than significant.	III	None required.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
GEO-3	Bay Mud beneath the wharf is considered non-liquefiable; therefore, the impact of liquefaction on the structure would be less than significant (Class III). Seismically induced settlement was taken into account for the seismic retrofit design and structural upgrade program. Thus, impacts associated with seismically induced settlement have been addressed and the potential for impact is adverse, but less than significant.	III	None required.
GEO-4	Long Wharf operators may not have adequate warning time to allow a vessel to depart from the wharf to avoid damage to the vessel and/or the wharf from a tsunami. Impacts are considered significant adverse impacts.	II	GEO-4: As soon as possible, after notification of a tsunami, Long Wharf operators shall release the vessel from its mooring and the vessel shall move away from the wharf.
GEO-5	Upgrades to the various structures of the wharf have been completed and meet the level prescribed in the CSLC MOTEM's. As completed, there are no adverse impacts associated with the Long Wharf.	III	None required.
GEO-6	A preliminary analysis indicates that the structural capacity of the breasting dolphins and the main wharf would need to be increased in order to berth/moor larger vessels at Berth No. 4. Significant, adverse impacts (Class II) could occur without proper design and construction of seismic improvements addressing this potential for larger vessels at Berth No. 4.	II	GEO-6: Additional mooring and structural analysis will be required and results implemented prior to the berthing of larger double-hulled vessels at Berth No. 4.

Table ES-1 (continued)
Summary of Environmental Impacts for the Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
Section 4.12 SOCIOECONOMICS			
SOC-1	Impacts from oil releases could degrade the environment and preclude the use of shoreline land and associated recreational activities. Potential socioeconomic implications would include any area, structure, or facility that could experience business interruption and loss of revenue as a result of a spill and resultant cleanup operations. Impacts could be Class I or II, depending on severity of impact.	I or II	SOC-1: Mitigation would be in the form of monetary compensation for losses in accordance with the California Oil Spill Prevention and Response Act.
Section 4.13 ENVIRONMENTAL JUSTICE			
EJ-1	The Long Wharf area of potential impact does not include an area identified as an MTC-Minority Zone and Area of Poverty, or an area of Meaningfully Greater Minority or Low-Income Population. However, preclusion of affected populations from fishing areas over an extended period of time could be considered disproportionate, particularly if such populations do not have the ability to go to uncontaminated areas nearby and depend on fishing as a food source.	--	EJ-1: Should an oil spill from the Long Wharf extend beyond 0.5 mile from the Terminal and preclude sport fishing for more than two days, Chevron U.S.A., Inc. shall contribute either funds or food stuffs to a local food bank in an amount sufficient, as determined in conjunction with the CSLC, to replace food sources that would have been supplied within the effective areas.

Impact Class

I = Significant adverse impact that remains significant after mitigation.

II = Significant adverse impact that can be eliminated or reduced below an issue's significance criteria.

III = Adverse impact that does not meet or exceed an issue's significance criteria.

IV = Beneficial impact.

Table ES-2
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact Class

- I = Significant adverse impact that remains significant after mitigation.
 - II = Significant adverse impact that can be eliminated or reduced below an issue's significance criteria.
 - III = Adverse impact that does not meet or exceed an issue's significance criteria.
 - IV = Beneficial impact.
 - NA = Not Applicable to the Long Wharf. May transfer similar impact of proposed Project to other area terminals.

Alt 1: Full Throughput via Pipelines Alternative

Alt 2: Conceptual Consolidation Terminal

Table ES-2
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
OPERATIONAL SAFETY/RISK OF UPSET					
OS-1	There are no deficiencies with the existing deck drainage system or procedures that would pose a risk for, or increase the potential for spills at the terminal from routine operations.	III	IV	NA	III
OS-2	Potential impacts to public safety from a highly volatile product release are less than significant since the vapors evaporate quickly.	III	IV	NA	III
OS-3	Chevron's response capability for containment of spills during transfer operations would be adverse and significant for spills greater than 50 bbls, and range from spills that can be contained during first response efforts with rapid cleanup (Class II), to those complex spills that result in a significant impact (Class I) with residual effects after mitigation.	I or II	IV	NA	I or II
OS-4	Group V oils have a specific gravity greater than 1 and do not float on the water; instead, they will sink below the surface into the water column or possibly to the bottom. Chevron states in their Spill Preparedness and Emergency Response Plan that no reasonable technology currently exists for a Group V response in the San Francisco Bay. Thus, a release of a Group V oil could result in significant impacts.	I	IV	NA	I
OS-5	Spills from the terminal during non-transfer periods would be associated with pipelines and are considered a significant (Class II) impact if spills are less than 50 bbls, or significant (Class I) impacts for spills greater than 50 bbls.	I or II	IV	NA	I or II

Table ES-2 (continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
OS-6	Public areas are beyond the hazard footprint boundary; thus fires and explosions would not cause a public safety risk. However, the Wharf's Operations Manual does not address fire emergency procedures and a fire and/or explosion could lead to a release of oil. A significant adverse impact has been identified.	II	III	NA	I or II
OS-7	Spills from accidents in the Bay could result in impacts to water quality or biological resources that could be significant adverse (Class II) impacts for those that can be contained during first response efforts; or significant adverse (Class I) impacts that would have residual impacts. While Chevron does not have legal responsibility for tankers it does not own, it does have responsibility to participate in improving general response capabilities.	I or II	IV	NA	I or II
WATER QUALITY					
WQ-1	Disturbed sediments could cause a brief, localized increase in turbidity and depression in dissolved oxygen concentrations, but would disperse rapidly with the strong tidal currents in the area, and be rapidly mitigated by tidal mixing with Bay waters of high dissolved oxygen concentration. Such events would occur for an hour or less during a 24-hour period and be limited to the immediate vicinity of the Long Wharf, thus increased turbidity due to vessel traffic would be adverse, but less than significant.	III	IV	NA	I or II
WQ-2	Discharge of ballast water that contains harmful microorganisms could impair several of the project area's beneficial uses, including commercial and sport fishing, estuarine habitat, fish migration, preservation of rare and endangered species, water contact recreation, non-contact water recreation, fish spawning, and wildlife habitat. Therefore discharge of segregated ballast water is determined to have a potentially significant impact to water quality.	I	IV	NA	I
WQ-3	Vessel wastes are treated and discharged in accordance with an NPDES permit and because the discharge is monitored and Chevron generally has been within permit requirements for the last five years, the impacts of chemical contaminants in treated terminal wastes on water quality are considered to be adverse, but less than significant.	III	IV	NA	III
WQ-4	Firewater has been treated at the Refinery and because contaminants in firewater would be diluted below thresholds within a matter of minutes, the impacts of firewater discharge on marine water quality are considered to be adverse, but less than significant.	III	IV	NA	III

1
2
3

Table ES-2 (continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
WQ-5	Non-segregated ballast water that is sent to the treatment facility may include nonindigenous organisms. Treatment at the facility does not include any specific procedures to prevent organisms that may be in ballast water from being discharged to Bay waters. Discharge of harmful microorganisms would be a significant adverse impact.	II	IV	NA	II
WQ-6	The slow leaching of zinc anodes may increase metal concentrations, but due to the slow rate of exchange of the anodes to seawater, the impact of cathodic protection on water quality is adverse, but less than significant.	III	IV	NA	III
WQ-7	Marine anti-fouling paints are highly toxic containing copper, sodium, zinc, and tributyltin (TBT) and their use on vessels associated with the Long Wharf is considered to be a significant adverse impact to water quality that cannot be mitigated to less than significant.	I	IV	NA	I
WQ-8	Routine vessel maintenance would have the potential to degrade water quality due to chronic spills during transfers of lubricating oils, resulting in adverse significant impacts.	II	IV	NA	II
WQ-9	Stormwater runoff from the Long Wharf may contribute pollutants to the Bay in concentrations that may adversely affect some benthic species within the local area, resulting in a significant adverse impact to water quality.	II	IV	NA	II
WQ-10	The effects of dredging and dredged material disposal on water quality are regulated and subject to acquisition of a dredging permit prior to dredging, thus impacts on water quality are adverse, but less than significant .	III	IV	NA	III
WQ-11	Potential impacts on water quality can result from leaks or spills. Small leaks or spills (less than 50 bbl) related to Long Wharf operations could result in significant (Class II) impacts, while large spills (greater than 50 bbl) could result in significant adverse impacts (Class I).	I or II	IV	NA	I or II
WQ-12	A significant impact to water quality (Class I or II) could result from leaks or an accidental spill of crude oil or oil product from a vessel spill along tanker routes either in San Francisco Bay or outer coast waters.	I or II	IV	NA	I or II

1
2
3
Table ES-2 (continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
BIOLOGICAL RESOURCES					
BIO-1	Ship traffic associated with Long Wharf terminal operations represents an incremental amount compared to the background noise of ship traffic in San Francisco Bay and along outer coast tanker routes, thus disturbance to fishes from routine operations at the terminal are adverse, but less than significant impacts. Birds local to the terminal have adapted to vessel traffic, and impacts are adverse, but less than significant.	III	IV	NA	III
BIO-2	The area near the Chevron Long Wharf berth where propeller wash and bow thrusters may disturb sediments is very small compared to the amount of benthic habitat in the project area, and impacts of tanker sediment turbulence on benthic communities are adverse but less than significant.	III	IV	NA	III
BIO-3	Loss of juvenile Dungeness crabs and young Chinook salmon would be significant (Class II) if dredging occurs when juveniles are migrating through the area. Because of the low volume of material dredged, adverse, but less than significant impacts (Class III) occur to plankton, other benthos, other fishes, and birds.	II and III	IV	NA	II and III
BIO-4	Invasive organisms/introduction of non-indigenous species in ballast water released in the Bay could have significant impacts to plankton, benthos, fishes, and birds.	I	IV	NA	I
BIO-5	Contaminant inputs into the water from Chevron terminal operations are low when compared to other pollutant sources in the Bay. The impacts on plankton, benthos, fishes, and birds are adverse, but less than significant.	III	IV	NA	III
BIO-6	The impacts of a spill on the biota at or near the Long Wharf have the potential to spread throughout much of San Francisco Bay. Vulnerable biota are plankton, benthos, eelgrass, fishes, marshes, birds, and mammals. Per Section 4.1, Operational Safety/Risk of Accidents, small spills at the Long Wharf (less than 50 bbls) should be able to be contained (Class II impacts). However, spills larger than 50 bbls may not be able to be contained and the Long Wharf may not have adequate boom to protect all the sensitive areas at the most risk that could be oiled within 3 hours of a spill from the Long Wharf. Impacts from large spills are considered to be significant adverse (Class I) impacts. A significant impact to biological resources (Class I or II impact) could result from spills of crude oil or product from a vessel in transit along tanker routes either in San Francisco Bay or outer coast waters.	I and II	IV	NA	I or II

1
2
3
Table ES-2 (continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
COMMERCIAL AND SPORTS FISHERIES					
FSH-1	Space use conflicts between Long Wharf routine operations and commercial herring fishing could occur resulting in interference or displacement of herring fishing activities. Impacts would range from significant (Class II) to adverse, but less than significant (Class III), depending on herring spawning locations, fishing operations and other factors.	II or III	IV	NA	II or II
FSH-2	Space use conflicts between transiting vessels serving the Chevron Long Wharf and commercial herring operators could occur resulting in interference or displacement of herring fishing activities.	II	IV	NA	II
FSH-3	Space use conflicts between sport fisheries in the Bay and normal Chevron Long Wharf operations are small, and would be adverse, but less than significant.	III	IV	NA	III
FSH-4	Space use conflicts between Bay sport fisheries and vessels transiting to and from the Long Wharf are expected to be infrequent, and if they occur, are expected to be a small portion of available fishing, and would be adverse, but less than significant.	III	IV	NA	III
FSH-5	Vessel operators handling crude oil and product may affect commercial or recreational fishing; space use conflicts are expected to be adverse, but less than significant.	III	IV	NA	III
FSH-6	Fisheries depend on a healthy environment to survive and flourish. Invasive species discharged from ballast water could impair water quality (Impact WQ-2 and WQ-5) and biological resources (Impact BIO-7). These impacts to fisheries resources would impair commercial and sport fishing activities in the Bay and along the outer coast.	I	IV	NA	I
FSH-7	Chevron routing operations contribute to contamination of waters near the Long Wharf and to the Bay but impacts on sport and commercial fisheries are expected to be adverse, but less than significant.	III	IV	NA	III
FSH-8	Continuation of maintenance dredging at the Long Wharf is expected to cause Class III impacts on sport fishing activities and Class II impacts on herring spawning and fishing, Dungeness crab and salmon resources. New dredging to accommodate larger, double-hulled tankers is also expected to cause impacts similar to those caused by routine operation at the Long Wharf (Class II and Class III).	II and III	IV	NA	II and III

Table ES-2 (continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
FSH-9	Shrimp, herring and sport fisheries in central and north San Francisco Bay, San Pablo Bay, Carquinez Strait and elsewhere in the estuary are at highest risk of spill contamination. Depending on spill location, size and water and weather conditions, areas upstream of the confluence of the Sacramento and San Joaquin rivers may also suffer harm. In addition marinas, launch ramps and fishing access points in the Bays may be threatened, contaminated or closed. Significant adverse impacts (Class I and II) to Bay commercial and sport fisheries would result from oil spill accidents originating at the Long Wharf or from transiting tankers that service the Wharf.	I or II	IV	NA	I or II
FSH-10	Significant adverse impacts (Class I and II) to outer coast commercial and sport fisheries could result from oil spill accidents from the expected 900 annual transiting tankers servicing the Chevron Long Wharf. The level of impact would depend on the size of the spill, location, and fisheries occurring in the area of the spill.	I or II	IV	NA	I or II
LAND USE AND RECREATION					
LU-1	The proposed Project would not conflict with any existing or future planned policy issues or plans. Proposed Project impacts with regard to policy inconsistency would be less than significant (Class III).	III	III	NA	III
LU-2	Issues related to land use associated with the Refinery and planned trail segments are not within the jurisdiction of the CSLC. Proposed Project land use impacts would be less than significant (Class III).	III	III	NA	III
LU-3	A number of recreational facilities (designated parks, wildlife preserves, open space, etc.) and recreational uses (nature viewing, boating, fishing, surfing, etc.) are within the potential area that could be impacted by the spread of oil from a spill at or near the terminal. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water and could result in significant adverse (Class I and II) impacts.	I and II	IV	NA	I and II
LU-4	Spills from vessels in transit that beach along sensitive land use areas or heavily used areas including recreational areas would limit or preclude such uses and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.	I and II	IV	NA	I or II

1
2
3

Table ES-2 (continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
AIR QUALITY					
AQ-1	No major construction is proposed as part of the 30-year lease. Minor upgrades, maintenance and repairs would be adverse, but less than significant.	III	IV	NA	III
AQ-2	Measured and calculated criteria pollutant emissions are below existing yearly BAAQMD permitted levels. Continued operation of the Long Wharf at current throughput levels would not result in air quality emissions impacts.	III	IV	NA	III
AQ-3	Since the facility is already operational, worker commute emissions are already part of ambient conditions, thus non-permitted emissions impacts are less than significant.	III	IV	NA	III
AQ-4	Dredging is a permitting activity that is calculated into the Bay Area's baseline conditions. Air quality emissions will not increase from continued dredging activities over the term of the proposed 30-year lease, and are considered less than significant.	III	IV	NA	III
AQ-5	Over the lease period, a minimal amount of emissions would be associated with Berth No. 4 modifications. Indirect operations emissions would reduce in accordance with the Bay Area CAP and subsequent clean air plans enacted during the lease period. Thus, future operational emissions (both indirect and direct) would result in an adverse, but less than significant impact.	III	IV	NA	III
AQ-6	The Long Wharf does not emit odors that are/have been reported in the local area. No sensitive receptors are located in the immediate area. Impacts are adverse, but less than significant.	III	IV	NA	III
AQ-7	The Long Wharf is in compliance with the BAAQMD permitting for hazardous and toxic pollutants. Impacts are adverse, but less than significant.	III	IV	NA	III
NOISE					
N-1	Because the Long Wharf already exists, it is considered part of the ambient noise environment. It is located in an industrial area, however sensitive receptors are located along the Pt. Richmond shoreline approximately 1 mile away. Over the lease period, no sensitive receptors are to be constructed proximate to the terminal. Occasional noise complaints from residential receptors result in Class I impacts.	I	IV	NA	I
N-2	No expansion of Long Wharf operations are expected to occur over the 30-year lease period. Mobile sources of noise associated with future vessel berthing operations are expected to remain similar to current operations. Impacts are adverse, but less than significant.	III	IV	NA	III

1
2
3

Table ES-2 (continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
VEHICULAR AND RAIL TRANSPORTATION					
TR-1	No increase in vehicular traffic from wharf operations would occur during the lease period.	III	IV	NA	III
VISUAL RESOURCES/LIGHT AND GLARE					
VR-1	Proposed Project operations involve tanker activity at the existing Long Wharf and vessel transit through established shipping lanes in the Bay. The Long Wharf and Refinery have been in place for a long time, and the proposed Project site is industrial in character. No visual changes from continued operations would occur. Visual impacts or night lighting impacts associated with continued operations are adverse, but less than significant.	III	IV	NA	III
VR-2	The visual impacts of a spill at or near the Long Wharf could last for a long period of time, depending on the level of physical impact and cleanup ability, and are considered to be adverse and significant (Class I or II).	I or II	IV	NA	I or II
VR-3	Spills from vessels in transit would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of viewers would result in a negative impression of the viewshed and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.	I or II	IV	NA	I or II
GEOLOGICAL RESOURCES/STRUCTURAL INTEGRITY					
GEO-1	The Long Wharf is not located in the Alquist-Priolo earthquake fault zone. Surface rupture from known active faults is not anticipated, and impacts would be less than significant. Seismically induced landsliding is unlikely as the underlying sea bottom is relatively flat.	III	IV	NA	III
GEO-2	Upgrades have been completed at the Long Wharf that conform to CSLC's MOTEMS. Potential impacts from groundshaking are adverse, but less than significant.	III	IV	NA	III
GEO-3	Bay Mud beneath the wharf is considered non-liquefiable; therefore, the impact of liquefaction on the structure would be adverse, but less than significant. Seismically induced settlement was taken into account for the seismic retrofit design and structural upgrade program. Thus, impacts associated with seismically induced settlement have been addressed and the potential for impact is adverse, but less than significant.	III	IV	NA	III
GEO-4	Long Wharf operators may not have adequate warning time to allow a vessel to depart from the wharf to avoid damage to the vessel and/or the wharf from a tsunami. Impacts are considered significant adverse impacts.	II	IV	NA	II

4

Table ES-2 (continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
GEO-5	Upgrades to the various structures of the wharf have been completed and meet the level prescribed in the CSLC MOTEM's. As completed, there are no adverse impacts associated with the Long Wharf.	III	IV	NA	III
GEO-6	A preliminary analysis indicates that the structural capacity of the breasting dolphins and the main wharf would need to be increased in order to berth/moor larger vessels at Berth No. 4. Significant, adverse impacts (Class II) could occur without proper design and construction of seismic improvements addressing this potential for larger vessels at Berth No. 4.	II	IV	NA	II
SOCIOECONOMICS					
SOC-1	Impacts from oil releases could degrade the environment and preclude the use of shoreline land and associated recreational activities. Potential socioeconomic implications would include any area, structure, or facility that could experience business interruption and loss of revenue as a result of a spill and resultant cleanup operations. Impacts could be Class I or II, depending on severity of impact.	I or II	IV	NA	I or II
ENVIRONMENTAL JUSTICE					
EJ-1	The Long Wharf area of potential impact does not include an area identified as an MTC-Minority Zone and Area of Poverty, or an area of Meaningfully Greater Minority or Low-Income Population. However, preclusion of affected populations from fishing areas over an extended period of time could be considered disproportionate, particularly if such populations do not have the ability to go to uncontaminated areas nearby and depend on fishing as a food source.	1)	2)	NA	1)